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| EXAMINER |
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TYSON, MELANIE RUANO

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| ART UNIT | PAPER NUMBER |
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3731

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,636

Applicant(s)

FARROW ET AL.

Examiner

Melanie Tyson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the plate or panel disposed between the battery and the housing, a housing comprising two spaced walls forming a vacuum space in between, and a sealed enclosure placed under a vacuum must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 4-8, 10-11, and 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Miller (US 2004/0012370). Miller discloses a battery pack for use with electric-powered surgical instruments (paragraph 2; Figure 1), which includes: a housing (12) inherently connectable to a surgical instrument (paragraph 2) and having an inner portion formed by thermal insulating material (16) extending around batteries (15) or wrapped around the batteries (paragraph 13). Miller further discloses that the insulating material prevents the batteries from reaching 80 degrees C (preferably 60 degrees C) while being disposed to 136 degrees C, in turn maximizing the life of the batteries (paragraphs 1-5).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitzen et al. (Patent No. 5,792,573) in view of Miller.

Pitzen et al. disclose a surgical system (Figure 2) comprising: a tool (column 1, lines 15-18), an electric motor (12), and an attachable battery pack (30) having an outer housing (31) and batteries (32). Pitzen et al. do not disclose an inner housing formed by a thermal insulation material. Miller teaches a battery pack for use with electric-powered surgical instruments (paragraph 2; Figure 1), which includes: a housing (12) inherently attachable to a surgical instrument (paragraph 2) and having an inner "housing" (since it completely "encases" the batteries; paragraph 9) formed by thermal insulating material (16). Furthermore, since the material is a cross-stitched quilted "panel" (paragraph 13), the material may be referred to as a "panel" that is disposed between the batteries and the housing. Miller also discloses that the insulating material prevents the cells from reaching 80 degrees C (preferably 60 degrees C) while being disposed to 136 degrees C, in turn maximizing the life of the batteries (paragraphs 1-5). It would have been obvious to one of ordinary skill in the art at the time the invention was

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made to include an inner housing formed by a thermal insulating material in the form of a cross-stitched quilted "panel" in the battery pack of Pitzen et al. as taught by Miller in order to further prevent the batteries from being destroyed when exposed to high temperatures, such as during sterilization (paragraph 3).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller. Miller discloses a battery pack as described above, however, Miller does not disclose the insulation material is sprayed on the batteries. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to spray the insulation material on the batteries. Applicant has not disclosed that spraying the insulation material on the batteries provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the insulation material wrapped around the batteries as disclosed by Miller because the function of the insulation material is to protect the batteries when being exposed to temperatures above their rated temperature, which is not affected by the way the insulation material is applied to the batteries. Therefore, it would have been obvious to modify the insulation material of Miller to obtain the invention as specified in claim 9.

8. Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Schulz et al. (Patent No. 5,792,573).

Miller discloses a battery pack for use with electric-powered surgical instruments (paragraph 2; Figure 1) comprising a housing (12) and batteries (15). Miller further discloses that the insulating material prevents the cells from

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reaching 80 degrees C (preferably 60 degrees) while being disposed to 136 degrees C in order to maximize the life of the batteries (paragraphs 1-5). Miller does not disclose a vacuum space thermally insulating the batteries. Schulz et al. teaches a thermal insulation device (Figure 4), also known as vacuum insulation, that may be used for batteries (column 1, lines 4-5 and 13-17) comprising a sealed housing (column 1, line 7) with two spaced walls (44 and 45) forming a vacuum space there between (vacuum tight housing; column 1, lines 47-48). Furthermore, Schulz et al. teach the insulation action is improved by evacuating gases present in the interspace between the outer and inner walls with the aid of a vacuum pump (column 1, lines 30-35 and 50-55). Vacuum insulation devices are known in the art to insulate high temperature batteries that operate, for example, at about 300 degrees C from cooler temperatures outside the device (column 1, lines 13-17). Therefore, it is obvious that vacuum insulation devices such as the one taught by Schulz et al. will insulate batteries that operate, for example, at about 60 degrees C from higher temperatures outside the device. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate vacuum insulation taught by Schulz et al. in the battery pack of Miller in order to improve the insulation action of the battery pack (column 1, lines 30-35).

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pitzen et al. in view of Miller and further in view of Cao et al. (Patent No. 5,879,744).

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Pitzen et al. in view of Miller disclose a device as described above, however, do not disclose the thermal insulation is selected from the group claimed. Cao et al. disclose silica aerogels are well known insulation materials for batteries (column 2, lines 5-6 and 58-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select a silica aerogel for thermal insulation in the device of Pitzen et al. in view of Miller as taught by Cao et al. in order to produce a battery pack with improved insulation performances at temperatures as high as 500 degrees C (column 4, lines 20-39).

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Cao et al.

Miller discloses a battery pack as described above, however, does not disclose the thermal insulation is selected from the group claimed. Cao et al. disclose silica aerogels are well known insulation materials for batteries (column 2, lines 5-6 and 58-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select a silica aerogel for thermal insulation in the device of Miller as taught by Cao et al. in order to produce a battery pack with improved insulation performances at temperatures as high as 500 degrees C (column 4, lines 20-39).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Tyson whose telephone number is (571) 272-9062. The examiner can normally be reached on Monday through Thursday 9:00 a.m. - 6:30 p.m., alternate Fridays 9:00 a.m. - 5:30 p.m. EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on (571) 272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Melanie Tyson *MT*
October 12, 2006

[Signature]
ANH TUAN T. NGUYEN
SUPERVISORY PATENT EXAMINER
10/16/06